

REMARKS

In view of the above amendments and the following remarks, Applicant requests favorable reconsideration of this application.

Claims 1-21 and 34-40 having been previously canceled, Claims 22 through 33 and 41 through 52 are now presented for examination. Claims 22 and 28 have been amended to define still more clearly what Applicant regards as his invention, in terms which distinguish over the art of record. Claims 41-52 have been added to assure Applicant of the full measure of protection to which he deems himself entitled. Claims 22, 28, 41 and 47 are the only independent claims.

Claims 22-26 and 28-33 have been rejected under 35 U.S.C. § 103(a) as unpatentable over Applicant's Admitted Prior Art (AAPR) in view of U.S. Patent 5,006,760 (Drake et al.). Claim 27 has been rejected under 35 U.S.C. §103(a) as unpatentable over AAPR and Drake, Jr. as applied to Claims 22-26 and further in view of U.S. Patent 4,856,904 (Akagawa). With regard to the claims as currently amended and the newly added claims, these rejections are respectfully traversed.

Independent Claim 22 as currently amended is directed to a pod for attachment to the outside surface of a grounded electromagnetic shielded chamber. The grounded electromagnetic shielded chamber has a door and a grounded flange portion around the door on the outside surface and contains device manufacturing apparatus for processing the substrate. In the pod, walls contain the substrate and there is a lid for an opening defined by the walls through which the substrate is transferred between the pod and the grounded electromagnetic shielded chamber. The walls have an electromagnetic shield member that includes a flange portion to

contact the grounded flange portion of the grounded electromagnetic shielded chamber without any intervening elements being present.

Applicant's admitted prior art (AAPA) disclosure discloses a pod attachable to the outside wall of an electromagnetic shielded chamber with walls and importing a substrate to a device manufacturing apparatus in the electromagnetic shielded member from the pod.

In Applicant's view, Drake, Jr. discloses a capacitive feed arrangement for a parallel plate plasma reactor. One plate of the capacitor has a lower electrode or a contact to the lower electrode and the other plate of the capacitor has an annular member insulated from the lower electrode or contact. In Drake, an upper electrode 11 and a lower electrode 13 are separated by a dielectric ring 12. The lower electrode 13 is insulated from the upper electrode 11 and insulated from ground. The lower electrode 13 serves as a stage that holds a wafer 14. A shield 27 that extends around the lower electrode 13 and is insulated from the lower electrode 13 by rods 28 shields the environment from the RF power applied to the parallel plate plasma reactor. The shield 27 connects to a ground 26 which is insulated from the upper electrode 11 by the dielectric ring 12. Conductive ring 17 that is connected to an RF power source is insulated from upper electrode 11 and lower electrode 13 so that conductive ring 17 and lower electrode 13 form a capacitor 35 and a high power electromagnetic field is provided between the lower electrode 13 and the upper electrode 11.

According to the invention of Claim 22 as currently amended, a pod for attachment to the outside surface of a grounded electromagnetic shielded chamber has walls for containing a substrate that is transferrable between the pod and the chamber and an electromagnetic shield member. The electromagnetic shield member of the pod has a flange portion for contacting the

grounded flange portion around a door on the outside surface of the grounded electromagnetic shielded chamber without any intervening elements being present.

The AAPA may disclose shielded metal chambers for EMI protection. The AAPA, as noted by the Examiner, does not specifically mention an electromagnetic shield member provided by the walls of a pod as in Claim 22.

Drake discloses a plasma reactor chamber having an upper electrode 11 and a lower electrode 13 separated by a dielectric ring 12. RF power is supplied to the lower electrode 13 from an outside source via conductive ring 17. An electromagnetic shield 27 surrounding the lower electrode 13 contacts a ground ring 26 that is exterior to and separated from both the upper electrode 11 and the lower electrode 13 of the chamber 10. Neither conductive ring 17 nor ground ring 26 of Drake contacts the chamber 10. In contrast to Drake, it is a feature of Claim 22 that the walls of a pod for attachment to the outside surface of a grounded electromagnetic shielded chamber having a grounded flange portion around a door has an electromagnetic shield member with a flange portion and another feature that the flange portion of the electromagnetic shield member is in contact with the grounded flange portion of the grounded electromagnetic shielded chamber without any intervening elements being present. Drake only teaches an electromagnetic shield 27 that contacts a ground ring 26 which ground ring is insulated from both the upper and lower electrodes 11 and 13 of the plasma reactor chamber 10. Accordingly, it is not seen that Drake in any manner teaches or suggests the feature of Claim 22 that a flange portion of a pod's electromagnetic shield member contacts the grounded flange portion of a grounded electromagnetic chamber without any intervening elements being present.

With regard to the cited combination, the AAPA is devoid of any suggestion of an electromagnetic member in the walls of a pod and Drake is restricted to an electromagnetic shield that contacts a ground ring which is insulated from a plasma reactor chamber. Neither the AAPA nor Drake in any manner teaches an arrangement in which the walls of a pod has a flange portion in contact with the grounded flange portion surrounding a door on the outside surface of a grounded electromagnetic chamber without any intervening elements being present. As a result, it is not seen that the addition of Drake's electromagnetic shield that contacts a ground ring insulated from a plasma reactor chamber to the AAPA's teaching of covering apparatuses with shielded metal chambers to shield electromagnetic waves from leakage could possibly suggest the features of Claim 22 in which the flange portion of the electromagnetic shield in the walls of a pod contacts the grounded flange portion surrounding a door on the outside surface of a grounded electromagnetic chamber without any intervening elements. It is therefore believed that Claim 22 as currently amended is completely distinguished from any combination of the AAPA and Drake and is allowable.

Independent Claim 28 as currently amended is directed to device manufacturing apparatus that processes a substrate. In the apparatus, a transfer unit in an electromagnetic shielded chamber transfers the substrate between the electromagnetic shielded chamber. A pod attached to the outside surface of the electromagnetic shielded chamber has a flange portion to contact the outside surface. A processing unit in the electromagnetic shielded chamber processes the substrate transferred into the electromagnetic shielded chamber from the pod by the transfer unit. The electromagnetic shielded chamber has a door and a grounded flange portion around the

door on the outside surface. The grounded flange portion provides a grounded connection with the flange portion of the pod without any intervening elements being present.

In accordance with Claim 28 as currently amended, an electromagnetic chamber has a door and a grounded flange portion around the door on the outside surface, a pod attached to the outside surface of the electromagnetic shielded chamber has an electromagnetic shield member with a flange portion to contact the outside surface of the electromagnetic shielded chamber and the grounded flange portion of the electromagnetic shielded chamber around the door provides a grounded connection with the flange portion of the pod without any intervening elements being present.

As discussed with respect to Claim 22, the AAPA only teaches the use of shielded metal chambers but does not specifically mention an electromagnetic shield member provided by the walls of a pod. Drake only teaches that the electromagnetic shield 27 of lower electrode 13 is grounded by a ground ring 26 which ground ring is insulated from the chamber 10 by dielectric ring 12 and insulating sleeve 25. Accordingly, the ground ring 26 is separated from both the upper electrode 11 and the lower electrode 13 of the plasma reactor chamber 10 so that there is no contact between the electromagnetic shield 27 and the chamber 10. Further as clearly shown in Fig. 1 of Drake, the conductive ring 17 does not contact ground ring 26 but is insulated from the ground ring 26 by dielectric ring 12 and insulating sleeve 25. The conductive ring 17 is also insulated from the grounded upper electrode 11 of chamber 10 by the dielectric ring 12. As a result, it is not seen that Drake in any manner teaches or suggests the features of Claim 28 related to a grounded flange portion around a door on the outside surface of an electromagnetic shielded

chamber providing a grounded connection with the flange portion of a pod without any intervening elements being present.

Neither the AAPA nor Drake in any manner teaches the feature of a grounded flange portion around a door on the outside surface of an electromagnetic shielded chamber providing a grounded connection to a flange portion of the outside surface of electromagnetic shield member of a pod without any intervening elements being present. Accordingly, it is not seen that the addition of Drake's connection of electromagnetic shield 27 to a ground ring 26 which is insulated from the upper electrode 11 and the lower electrode of the chamber 10 to the AAPA which is devoid of any teaching of an electromagnetic shield member in its walls could possibly suggest the features of Claim 28. It is therefore believed that Claim 28 as currently amended is completely distinguished from any combination of the AAPA and Drake and is allowable.

New independent Claim 41 is directed to an improved pod for attachment to the outside surface of a grounded electromagnetic shielded chamber that has a door and a flange portion around the door on the outside surface. The grounded electromagnetic shielded chamber contains a device manufacturing apparatus that processes a substrate. In the pod, walls that contain the substrate have a flange portion that contacts the flange portion of the grounded electromagnetic shielded chamber. The pod has a lid for an opening defined by the walls through which the substrate is transferred between the pod and the grounded electromagnetic shielded chamber. An electromagnetic shield member covers the walls and is arranged on the flange portion of the walls.

The features of independent Claim 41 and Claims 42-46 depending therefrom are believed shown in the drawings and disclosed in the specification. No new matter is believed to have been added.

It is a feature of new Claim 41 that a pod has walls which have a flange portion that contacts the flange portion around a door of a grounded electromagnetic shielded chamber. The pod has an electromagnetic shield member that covers the walls and is arranged on the flange portion of the walls. As discussed with respect to Claim 22, the AAPA only teaches shielded metal chambers for EMI protection but is devoid of any suggestion of a pod with an electromagnetic shield member covering the pod walls and arranged a flange portion of the walls. Drake's chamber with an upper electrode 11 and a lower electrode 13 do not have flanges and are electrically coupled but do not make contact with each other. As a result, Drake fails to suggest a pod with a flange portion of its walls that contacts the flange portion around the door of a grounded electromagnetic shielded chamber or the feature of an electromagnetic shield member that covers the walls of the pod and is arranged on the flange portion of the pod walls. Accordingly, it is not seen that the AAPA's shielded metal chamber for EMI protection devoid of any suggestion of an electromagnetic shield member covering walls of a pod added to Drake's arrangement that fails to suggest contact between the flange portion of the electromagnetic shield member covered walls of a pod and a flange portion of a grounded electromagnetic shielded chamber could possibly suggest the features of new Claim 41. It is therefore believed that new Claim 41 is completely distinguished from any combination of the AAPA and Drake, Jr. and is allowable.

New independent Claim 47 is directed to An improved device manufacturing apparatus that processes a substrate. In the apparatus, a grounded shielded chamber has a door and a flange portion around the door on an outside surface of the grounded electromagnetic shielded chamber. A transfer unit arranged in the grounded shielded chamber is configured to transfer the substrate between the grounded electromagnetic shielded chamber and a pod attached to the outside surface. The pod has a flange portion to contact the flange portion of the grounded electromagnetic shielded chamber. A processing unit arranged in the grounded electromagnetic shielded chamber is configured to process the substrate transferred into the grounded electromagnetic shielded chamber from the pod by the transfer unit. The flange portion of the grounded electromagnetic shielded chamber is grounded.

The features of independent Claim 47 and Claims 48-52 depending therefrom are believed shown in the drawings and disclosed in the specification. No new matter is believed to have been added.

According to the invention of new Claim 47, a grounded electromagnetic shielded chamber has flange portion around a door on it outside surface and that a pod for attachment to the outside surface has a flange portion to contact the flange portion of the grounded electromagnetic shielded chamber, the flange portion of the electromagnetic shielded chamber being grounded. As discussed with respect to new Claim 41, the AAPA only teaches the use of shielded metal chambers for EMI protection but fails to suggest the structure of the flange of an electromagnetic shielded chamber being grounded as in Claim 47. Drake only teaches a chamber with an upper electrode 11 and a lower electrode 13 that do not have flanges and are electrically coupled but do not make contact with each other. Further, Drake only teaches a dielectric ring 12

on the upper electrode 11 of chamber 10 that comes into contact with a dielectric O ring on lower electrode 13. Accordingly, it is not seen that Drake in any manner suggests the feature of flange portion of a pod contacting a grounded flange portion of a grounded electromagnetic shielded chamber as in Claim 47. As a result, it is not seen that the addition of the AAPA's shielded metal chamber for EMI protection devoid of the flange portion of an electromagnetic shielded chamber being grounded or contacting the flange portion of a pod to Drake's dielectric contact arrangement between the upper and lower electrodes of a plasma reactor chamber could possibly suggest the features of Claim 47. It is therefore believed that new Claim 47 is completely distinguished from any combination of the AAA and Drake, Jr. and is allowable.

For the foregoing reasons, Applicant submits that the present invention, as recited in independent Claims 22, 28, 41 and 47 is patentably defined over the cited art.

Dependent Claims 22-27, 29-33, 42-46 and 48-52 also should be deemed allowable, in their own right, for defining other patentable features of the present invention in addition to those recited in independent Claims 22, 28, 41 and 47. Further individual consideration of these dependent claims is requested.

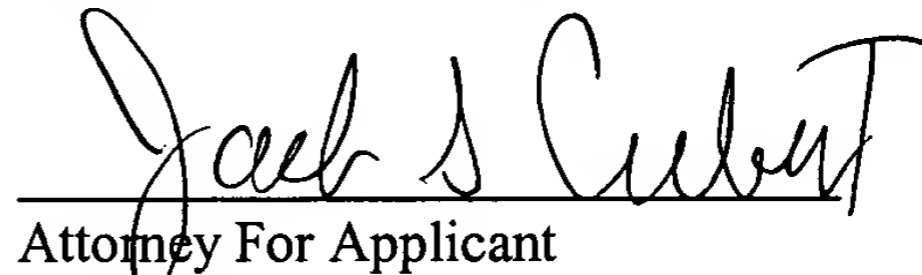
Applicant further submits that this Amendment After Final Action clearly places this application in condition for allowance. This Amendment was not earlier presented because Applicants believed that the prior Amendment placed the application in condition for allowance. Accordingly, entry of the instant Amendment, as an earnest attempt to advance prosecution and reduce the number of issues, is requested under 37 CFR 1.116.

Favorable consideration and reconsideration, withdrawal of the rejections set forth in the above-noted Office Action and an early Notice of Allowance are also requested.

Applicant also requests that the Examiner contact their undersigned representative should any matters be deemed outstanding precluding allowance of this application.

Applicant's attorney, Steven E. Warner, may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should be directed to our address listed below.

Respectfully submitted,

A handwritten signature in black ink, reading "Jack S. Cubert", written over a horizontal line.

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